



AIMS POWER™

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ALL IN ONE SOLAR POWER BOX USER'S MANUAL



TABLE OF CONTENTS

PRODUCT DESCRIPTION.....	3
IMPORTANT SAFETY INFORMATION.....	4
UNPACKING.....	6
INSTALLATION.....	7
INVERTER.....	10
SOLAR PV.....	11
BATTERY	11
START UP	14
SPECIFICATIONS	18
AIMS POWER LIMITED WARRANTY	20

**SAY GOODBYE TO LOUD GENERATORS AND USE THE ALL
IN ONE ONBOARD SOLAR GENERATOR!**

PRODUCT DESCRIPTION

Heavy Duty All-in-One Solar Power Box

Introducing our industrial grade all-in-one power box, designed to meet your most demanding power needs. This robust unit combines a powerful lithium battery, a versatile low frequency inverter, and multiple solar inputs. Whether you're working in a remote location or facing an unexpected emergency, this all-in-one unit is your lifeline.

Designed for Serious Power Needs

This product is engineered for serious power demands, perfect for remote locations or heavy-duty setups. While it can handle smaller tasks like charging cell phones or powering a TV at a tailgate, its primary focus is delivering dependable, high capacity power for critical applications. Its sturdy construction ensures it remains securely in place, prioritizing safety and reliability when installed. A robust solution for those who need power they can count on.

Key Features:

- ⦿ **High-Powered Lithium Battery:** Equipped with a 420 AMP 12V lithium battery, delivering an impressive 5.12kWh (5120 Wh) of energy storage.
- ⦿ **Versatile Inverter Charger:** Features a 3000 Watt, 120 Vac output, 25A inverter charger with a 50 amp bypass at 240V, ensuring reliable power inversion.
- ⦿ **Multiple Solar Inputs:** Supports up to 1400 Watts with a 100A max output, allowing for efficient solar energy harnessing.
- ⦿ **Powerful Charging Options:** Includes a 100A grid/generator input charger and a 200A alternator charging input for flexible power sourcing.
- ⦿ **No External Breakers/Fuses Needed:** Simplifies installation and maintenance.
- ⦿ **Expandable System:** Expandable up to 8 batteries to scale your power needs.
- ⦿ **Advanced Monitoring:** Optional Bluetooth monitor and LCD display for real-time system monitoring.
- ⦿ **Communication Ports:** Equipped with CAN & RS485 communication ports for seamless integration with other systems.
- ⦿ **High Capacity DC Load Port:** Features a 100A DC load port for direct DC power supply.

Applications:

- ⦿ Ideal for mobile businesses, ensuring uninterrupted power supply on the go.
- ⦿ Perfect for large RVs, providing reliable power for all your appliances and devices.
- ⦿ Suitable for industrial applications, remote locations, and emergency backup systems.

Why Choose Our Power Unit Over Competitors?

- ⦿ **Superior Capacity:** With a 5.120 kWh battery, our unit offers double the capacity of most competitors, ensuring you have more power when you need it.

- **Flexible Recharging:** Unlike many products that rely on a single recharging method, our unit offers multiple options, including solar, alternator, generator, and grid, giving you the freedom to recharge anywhere.
- **Expandable Design:** While many competitors limit you to a fixed battery capacity, our unit allows you to connect up to 8 batteries in parallel, providing unmatched scalability.
- **Independent Operation:** The ability to run the battery and electronics separately sets our unit apart, offering greater versatility and reliability.
- **User-Friendly Features:** With both Bluetooth and LCD options, you can easily monitor your AIO. Say goodbye to power interruptions and hello to a reliable, all-in-one power solution.

IMPORTANT SAFETY INFORMATION

Read this manual before installation, as it contains important safety, installation and operating instructions. Keep it in a safe place for future reference. **All references to “AIO” throughout the manual are for the All-In-One Solar Power Box, part # AIO-12V.**



- Caution. Risk of electric shock



- Do not place or install near flammable or explosive materials



- Install the product out of reach of children



- Heavy! May cause serious injury to the back



- Observe precautions for handling electrostatic discharge sensitive devices

All wiring must follow the National Electric Code, Provincial or other codes in effect at the time of installation, regardless of suggestions in this manual. All wires should be copper conductors.

1. Do not expose the AIO to rain, snow, spray, bilge or dust. To reduce risk of hazard, do not cover or obstruct the ventilation openings.
2. Do not install the AIO in a zero-clearance compartment. Overheating may result. Allow at least 12" of clearance around the inverter for air flow. Make sure that the air can circulate freely around the unit. A minimum air flow of 145CFM is required.
3. To avoid risk of fire and electronic shock, make sure that the wiring used is in good electrical condition and that the wire is not undersized. Do not operate the AIO with damaged or substandard wiring.
4. The AIO contains components which may produce arcs and/or sparks. To prevent fire and/or explosion do not install in compartments containing batteries or flammable materials or in a location that requires ignition protected equipment. This includes any space containing gasoline-powered machinery, fuel tanks, joints, fittings, or other connection between components of the fuel system.
5. Do NOT attempt to open or service the AIO. This will void the warranty. It contains no user-serviceable parts. Attempting to service the AIO may result in electrical shock or fire. Internal capacitors remain charged after all power is disconnected.
6. To reduce the risk of electrical shock, disconnect both AC and DC power from the inverter before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

CAUTION: Equipment Damage- Warranty Void

The output side of the inverter's AC wiring should at no time be connected to public power or a generator.

Installer should ensure that the inverter's AC output is, at no time, connected to its AC input.

WARNING: LIMITATIONS OF USE

SPECIFICALLY, PLEASE NOTE THAT THE AIO SHOULD NOT BE USED IN CONNECTION WITH LIFE SUPPORT SYSTEMS WE MAKE NO WARRANTY OR REPRESENTATION IN CONNECTION WITH THEIR PRODUCTS FOR SUCH USES. USING THE AIO WITH THIS PARTICULAR EQUIPMENT IS AT YOUR OWN RISK.

Precautions When Working with Batteries

- ✓ Do not expose battery to open flame
- ✓ Do not place the battery near anything flammable. It may lead to fire or explosion.
- ✓ Do not expose or place near water sources like downspouts or sprinklers. Electric shock may occur.
- ✓ Do not store battery in a place exposed to direct sunlight
- ✓ Store and operate in a cool, dry, well ventilated area
- ✓ Store the battery on a flat surface
- ✓ Keep out of reach of children and animals
- ✓ Keep dust and dirt away from battery
- ✓ Do not disconnect, disassemble or repair by unqualified personnel. Service must be made by qualified personnel only.
- ✓ Do not drop, cut, puncture or penetrate the battery. It may cause leakage of electrolyte or fire.
- ✓ Do not touch if liquid is spilled on the product. There is a risk of electric shock. Use insulated gloves.
- ✓ Do not step on the battery. This could damage the battery.
- ✓ Do not place any foreign objects on the top of the battery
- ✓ Do not install the battery pack upside down
- ✓ Ensure polarity connection is correct. Do not reverse positive and negative wires to terminal block
- ✓ Do not attempt to charge or discharge a damaged battery
- ✓ Keep battery out of extreme weather elements. Store and operate indoors.
- ✓ Do not connect any AC conductors or photo-voltaic conductors directly to the battery pack
- ✓ Remove all jewelry during handling

- ✓ Do not smoke near the battery
- ✓ Do not use while on medication
- ✓ Do not drop tools or anything sharp on the battery. Shock may occur.

Response to Emergency Situations

The battery consists of multiple fused batteries and a sophisticated BMS that are designed to prevent hazards resulting from failure. However, we cannot guarantee their absolute safety if battery is mishandled.

If a user happens to be exposed to internal materials of the battery cell due to damage to the outer casing, the following actions are recommended.

Inhalation: leave the contaminated area immediately and seek medical attention

Chemical eye burn: rinse eyes with running water for 15 minutes and seek medical attention

Contact with skin: wash the contacted area with soap thoroughly and seek medical attention

Ingestion: seek medical attention.

Fire

Use a foam extinguisher, CO2, ABC dry chemical, powdered graphite, copper powder or soda (sodium carbonate).

Users / Operators

- ⓘ Users of the AIO's battery should understand the functional principles and operation of on-grid and off-grid (backup) systems
- ⓘ Knowledge of the dangers and risks associated with installing and using electrical devices at possible dangerous voltages is the responsibility of the user not AIMS Power
- ⓘ Electrical certification and/or training is strongly recommended



Make sure all power is off and wires are disconnected when maintaining/servicing the AIO.

UNPACKING

The AIO comes in two crates, one for the battery and one for the electronics. Handle with care when unpacking, as the item is heavy and may require two people. Report any damage or missing items to AIMS Power within **24 hours of delivery**.



Top = Electronics (inverter, PV, charger)

Bottom= Lithium Battery

Components: AC Cover, 4-MC4 compatible connectors, and a pair of locking latches.



Heavy. Two-person lift.

SAVE YOUR ORIGINAL PACKAGING!

MOUNTING INSTRUCTIONS

The AIO's heavy duty steel case ensures long term durability, making the unit quite heavy. Install it in a permanent location that supports 265 lbs, away from direct sunlight, moisture/liquid that could possibly enter or fall on the unit, dirt, and debris. The AIO has been manufactured with conformal coating on the PCB, making it water, rust and dust resistant, but they are not splash proof. See the Safety section of the manual (page 3) for details. Do not mount on its side.

- Installation Location, Tools & Materials
- Follow all the local regulations to install the inverter.
- Please install the equipment in an INDOOR location of Dry, Clean, Cool with good ventilation.
- Working temperature: -10°C to 40°C (-14°F to 104°F)
- Storage temperature: -40 to 70°C (-40°F to 158°F)
- Relative Humidity: 0% to 95%, non-condensing
- Cooling: Forced air

Installation Connections (more information under specifications)

1. **Assemble:** Attach the electronics to the battery using the 2 latches attached to the unit.
2. **Power Off:** Before making any connections, turn off all AC and DC breakers.
3. **DC Load Connection:** First, connect the DC SB120 output from the DC load center, then connect it to the AIO-12.
4. **Battery Charging Input:** Use an SB350 connector to connect the battery charging input from the DC source to the AIO-12, such as connection to the starting battery to allow alternator to charge.
5. **Battery Expansion (optional):** Connect the battery expansion SB350 to the expansion battery first, then connect it to the AIO-12.
6. **Solar Panel Wiring:** Wire the PV solar panels according to specifications, ensuring you do not overload each input.
7. **AC Input and Output (See page 15 for wire diagram):**
 - o Wire the AC input or shore power from the source to the AIO-12. Ensure the supply breaker remains in the **off** position.
 - o Then wire the AC output to breaker panel.

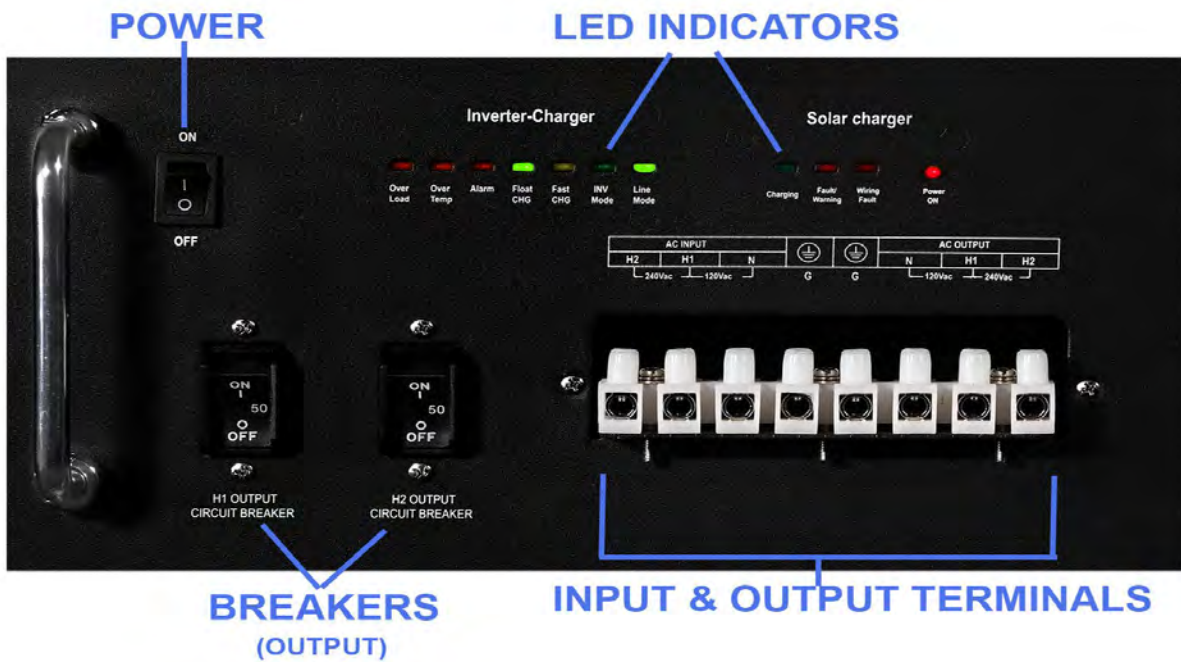


ALL IN ONE SOLAR POWER BOX
265 lbs

Only mount the unit in this position. Do not mount on its side. Allow airflow to circulate.

ELECTRONICS MODULE

INVERTER | SOLAR PV | BREAKERS





INVERTER

The **AIMS Power AIO** delivers **3000 Watts of pure sine wave power** with a **50 amp bypass**, **multi-stage battery charger**, and **AC auto-transfer switch**, all seamlessly integrated into one unit. Designed for efficiency, it boasts a **peak conversion rate of 88%**, ensuring reliable performance for demanding applications.

Packed with **cutting-edge technology**, this Low Frequency inverter safely converts **DC battery power to AC**, providing **high surge capability** to support inductive loads without harming sensitive equipment. The unit intelligently switches between inverter and AC bypass mode, ensuring uninterrupted operation when grid power fluctuates. When utility power drops, the system **automatically transfers to battery power**, then seamlessly reconnects when AC is restored.

With a **300% overload capacity for up to 20 seconds**, it's built to handle heavy-duty tools and equipment. Plus, the **Battery Priority mode** option maximizes battery usage for off-grid or backup power needs, giving you ultimate control and efficiency.

Inverter Features

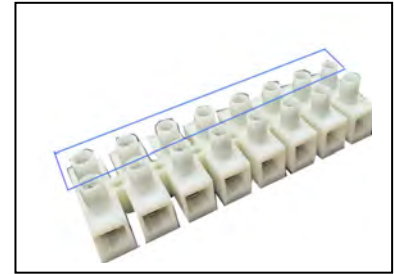
- ⦿ Powerful 100 amp battery charger
- ⦿ High surge ability up to 300% of rated power (20 sec)
- ⦿ Bypasses 30A @120Vac and 50A @240Vac, Outputs 120Vac
- ⦿ Low quiescent current, low power "Power Saving Mode" to conserve energy
- ⦿ Automatic generator start (your generator must also have this feature)
- ⦿ Battery temperature sensing for increased charging precision
- ⦿ 3-step intelligent battery charger, PFC (Power Factor Correction)
- ⦿ Powerful charge rate of up to 100Amps, selectable from 20%-100% using the current control dial
- ⦿ 10 ms typical transfer time between battery and AC, guarantees power continuity
- ⦿ Optional LCD remote control panel (Part # REMOTELF) or AIMS Pro Bluetooth Dongle (Part # BT-AIMS-Pro)
- ⦿ Automatic ground & neutral bonding with manual disability
- ⦿ 15s delay before transfer when AC resumes, extra protection for loads when used with a generator

- ⦿ Allows start up and through power with depleted batteries
- ⦿ Cooling fans
- ⦿ Extensive protection against various harsh situations
- ⦿ 13VDC battery recovery point, dedicated for renewable energy systems
- ⦿ CAN & RS485 communications

AC Input and Output Terminal: Use 4 AWG, high quality copper cable. Feed bare cable into the terminal block. **Do not** adjust the screws on the back row of the terminal block.

Auto Generator Start: Use 18 AWG speaker style type wire.

Remote Port: This port can be used with the AIMS Power LCD remote display part # REMOTELF or the Bluetooth dongle part # BT-AIMS-Pro. The Bluetooth dongle allows you to monitor your device using a cell phone.



SOLAR PV

The AIO comes equipped with a **built-in MPPT solar charge controller** and **four PV connections**, designed for seamless solar integration. The **MC4-compatible PV connectors** support most solar panels, ensuring easy installation.

The advanced MPPT charge controller optimizes energy harvest with a **smart tracking algorithm**, adjusting automatically to changing weather conditions. Operating at an impressive **97.5–99% efficiency**, it minimizes power loss while maximizing solar input. When paired with solar panels, the controller will be sure to keep the lithium battery charged as long as you have sunlight.

Check the specifications for voltage and wattage details. Inputs 1 & 2 are tied together, and inputs 3 & 4 are tied together.



	Input 1 + Input 2	Input 3 + Input 4
Max Wattage	700	700

NOTE: When using multiple inputs, ensure they are all of the same power rating.

BATTERY

The AIO includes a high-capacity AIMS Power 12V 420Ah LiFePO4 Battery, delivering **5320 watt-hours** in a compact unit, maximizing power while saving space. Need more? A second battery add-on is available (max 8).

Compared to traditional battery technologies, this powerhouse offers **exceptional performance at half the weight** and lasts **up to 8 times longer**, giving you more cycles and better efficiency. Plus, it's built for **safety and reliability**, featuring a **Battery Management System (BMS)** for cell integrity, voltage protection, and temperature regulation.

PART # ADDITIONAL BATTERY: AIO-12V-BAT2

Includes **automatic cell balancing**, **virtually no maintenance**, and **RS485 & CAN monitoring** for seamless integration into your system. Whether you're powering an RV, solar setup, or backup energy source, this battery delivers **consistent, high-output performance** you can trust.

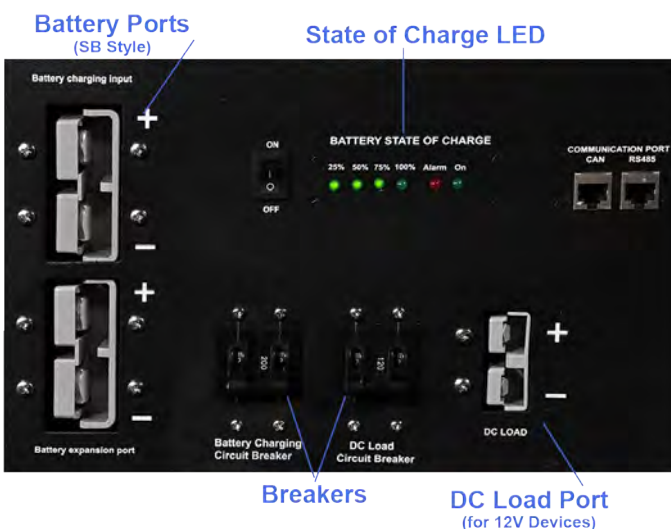
Experience **next-level power without compromise**—get the AIMS Power 12V 400Ah LiFePO4 Battery today.

Side View - DC Terminals & Battery Handles



Recommended Cables (not included):

- DC input to battery SB350 grey 4/0 AWG
- Battery to battery SB350 grey 4/0 AWG (if using the add-on battery option)
- The DC output SB120 grey 4 AWG



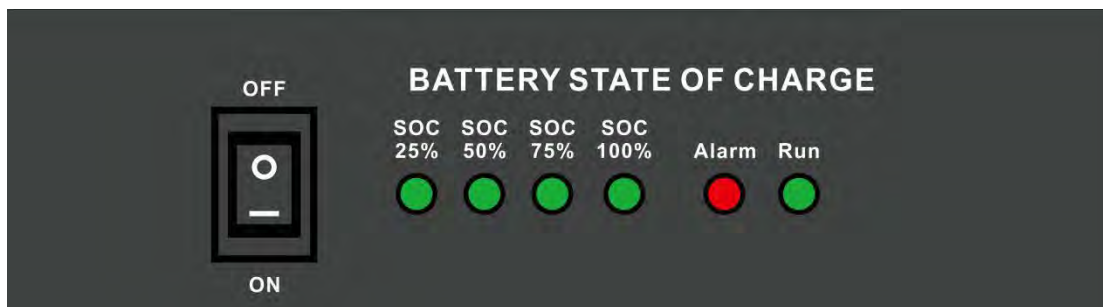
Caution: Risk of electric shock.

Battery Features

- Up to 8 times more cycles compared to other battery technologies
- 3500 cycles at 80% DoD, 6000 cycles at 60% DoD
- Short circuit protection
- Automatic low voltage shutdown
- Over charge protection
- Over discharge protection
- Multiple batteries: 8 batteries in parallel maximum

- Automatic cell balancing
- High output current for inverters
- Battery status LED located on the front of the battery displays SOC percentage
- RS485 & CAN ports
- Power switch & Remote ON/OFF
- Built in Battery Management System (BMS)
- RoHS compliant
- IP21
- Reverse polarity protection (caution)
- No venting or gassing
- BMS temperature protection

The LED indicators on the front of the battery pack show its operational state as follows: **LED Flashes at point of SOC**



Powering On/Off Battery

Power On

1. Turn on power switch after installing the battery pack. For parallel connected batteries, turn on power switch one by one, starting with main unit.
2. Within seconds, the internal main relay will turn on, all LEDs will light up.
3. If the battery pack initializes successfully, the RUN LED indicator on the front will turn green. The SOC LED indicator will show the current capacity.
4. Turn on inverter.

Power Off

1. Turn off DC load (inverter).
2. Turn off battery pack. For parallel connected batteries, turn off power switch one by one, main unit last.
3. Within a few seconds, the internal main relay will cut off, all LEDs off.

RUN LED(green)	System working normal
-----------------------	-----------------------

Alarm LED(red)	once/3S Flash: system warning
	once/1S Flash: system protection
	Lit continuously: system fault
SOC LEDs (4 green)	In Charging Mode SOC<25%, LED1, LED2, LED3, LED4 flash in turn 25%<SOC <50%, LED1 lit, LED2, LED3, LED4 flash in turn 50%<SOC<75%, LED1, LED2 lit, LED3, LED4 flash in turn 75%<SOC<95%, LED1, LED2, LED3 lit, LED4 flash SOC>95%, LED1, LED2, LED3, LED4 lit In Discharging Mode SOC< 10%, LED1, LED2, LED3, LED4 off 10%<SOC<25%, LED1 flash, LED2, LED3, LED4 off 25% <SOC<50%, LED1 lighting, LED2 flash, LED3, LED4 off 50% <SOC <75%, LED1, LED2 lit, LED3 flash, LED4 off SOC>75%, LED1, LED2, LED3 lit, LED4 flash

CAUTION!

If the ambient temperature is outside of the operating range, the battery pack may stop operating to protect the internal components. The **optimal** temperature range for the battery pack to operate is from 10°C to 30°C / 50°F to 86°F. Frequent exposure to harsh temperatures may deteriorate the performance and overall life of the battery and will void the warranty.

Battery Management System. The built in BMS is a central hub inside the battery that maintains constant voltage, current and temperature. The BMS allows for maximum charging capacity for faster charging and efficient discharging. It also communicates with the desktop monitoring software via the RS485 or CAN port.

START UP

To power on the AIO-12 turn battery power switch to the on position. The RUN and SOC LEDs will turn green. If using a the expansion battery, turn power on the main battery first, then expansion battery.

Once battery(s) is turned on you can now turn on the inverter with main power switch to ON. When powered on it is safe to tun on all DC and AC breakers one by one on the AIO-12 .

AC Wiring

3.4 AC Wiring

AIMS Power recommends using 8 AWG wire to connect to the AC terminal block.

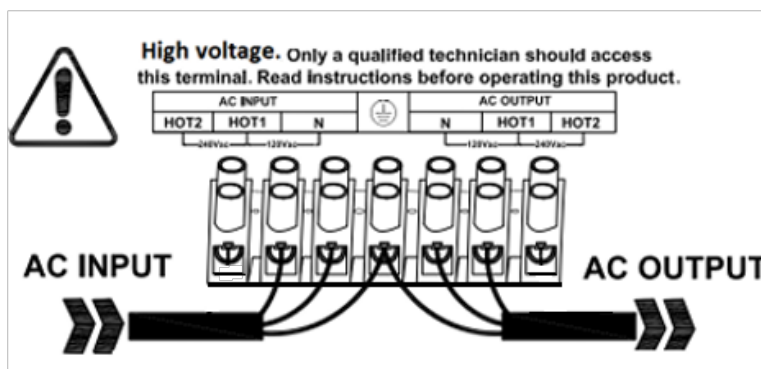
When in AC mode the AC input power will supply both the loads and AC charger, a thicker wire gauge for AC Input is required.

Wiring Diagram - Common 30Amp Service

120V single phase -

Input: Hot line + Neutral + Ground

Output: Hot line + Neutral + Ground



Wiring Diagram - Common 50Amp Service

Input: 240V

Hot 2 + Hot 1 + Neutral + Ground

H2+N=120V H1+N=120V

H1+H2=240V

Output: at 120/240V

Hot 1 + Neutral + Hot 2 + Ground

H1-N=120V H2-N=120V H1-H2=240V

OR

Input: 120V

H1 + neutral + ground

H1-N=120V

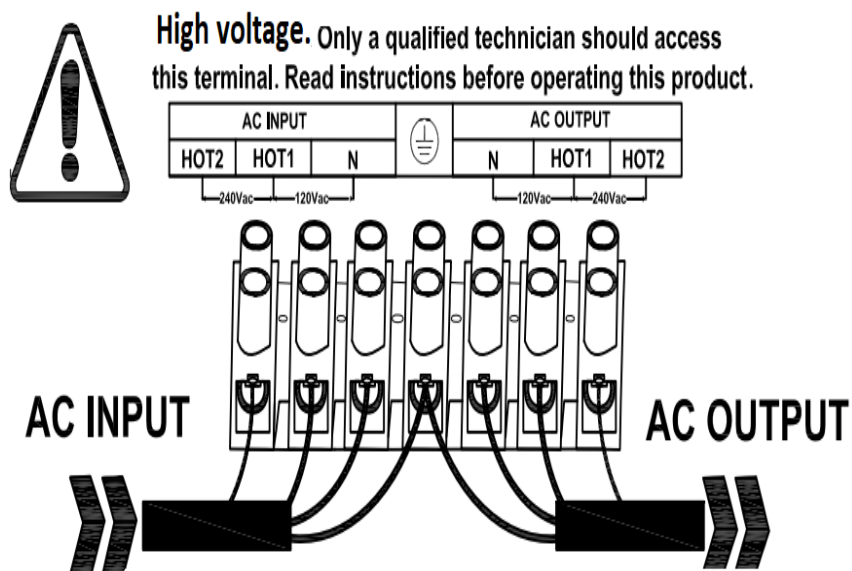
Output at 120V

Inverter mode

Output:

Hot 1 + Neutral + Ground 120V

H1-N=120V



The output voltage of this unit must never be connected in its input AC terminal, overload or damage may result.

Always switch on the inverter before plugging in any appliance.

Damages caused by AC wiring mistakes are not covered under warranty.

Indicator and Buzzer

		Indicator on top cover							LED on Remote Switch			
Status	Item	SHORE POWER ON	INVERTER ON	FAST CHG	FLOAT CHG	OVER TEMP TRIP	OVER LOAD TRIP	POWER SAVER ON	BATT CHG	INVERTER	Alarm	Buzzer
Line Mode	CC	√	×	√	×	×	×	×	√	×	×	×
	CV	√	×	√ blink	×	×	×	×	√	×	×	×
	Float	√	×	×	√	×	×	×	√	×	×	×
	Standby	√	×	×	×	×	×	×	×	×	×	×
Inverter Mode	Inverter On	×	√	×	×	×	×	×	×	√	×	×
	Power Saver	×	×	×	×	×	×	√	×	×	×	×
Inverter Mode	Low Battery	×	√	×	×	×	×	×	×	√	√	Beep 0.5s every 5s
	High Battery	×	√	×	×	×	×	×	×	√	√	Beep 0.5s every 1s
	Overload Invert Mode	×	√	×	×	×	√	×	×	√	√	Refer to “Audible

												alarm”
	Over-Temp Invert Mode	×	√	×	×	√	×	×	×	√	√	Beep 0.5s every 1s
	Over-Temp Line Mode	√	×	√	×	√	×	×	√	×	√	Beep 0.5s every 1s
	Over Charge	√	×	√	×	×	×	×	√	×	√	Beep 0.5s every 1s
Fault	Fan Lock	×	×	×	×	×	×	×	×	×	×	Beep continuous
	Battery High	×	√	×	×	×	×	×	×	√	×	Beep continuous
	Overload Invert Mode	×	×	×	×	×	√	×	×	×	×	Beep continuous
	Output Short	×	×	×	×	×	√	×	×	×	√	Beep continuous
	Over-Temp	×	×	×	×	√	×	×	×	×	×	Beep continuous
	Over Charge	×	×	√	×	×	×	×	√	×	×	Beep continuous
	Back Feed Short	×	×	×	×	×	×	×	×	×	×	Beep continuous

Symptom	Possible Cause	Recommended Solution
Inverter will not turn on during initial power up.	Batteries are not connected, loose battery-side connections. Low battery voltage.	Check the batteries and cable connections. Check DC fuse and breaker. Charge the battery.
No AC output voltage and no indicator lights ON.	Inverter has been manually transitioned to OFF mode.	Press the switch to Power saver on or Power saver off position.
AC output voltage is low and the inverter turns loads OFF in a short time.	Low battery.	Check the condition of the batteries and recharge if possible.
Charger is inoperative and unit will not accept AC.	AC voltage has dropped out-of-tolerance	Check the AC voltage for proper voltage and frequency.
Charger is supplying a lower charge rate.	Charger controls are improperly set. Low AC input voltage. Loose battery or AC input connections.	Refer to the section on adjusting the "Charger Rate". Source qualified AC power. Check all DC /AC connections.
Charger turns OFF while charging from a generator.	High AC input voltages from the generator.	Load the generator down with a heavy load. Turn the generator output voltage down.

Sensitive loads turn off temporarily when transferring between grid and inverting.	Inverter's low voltage trip voltage may be too low to sustain certain loads.	Choose narrow AC voltage in the DIP switch, or Install a UPS if possible.
Noise from Transformer/case*	Applying specific loads such as hair drier	Remove the loads

SPECIFICATIONS

Inverter Output	Continuous Output Power	3000W	
	Continuous Output voltage	120V Inverter - 120/240V 30/50A Bypass Mode	
	Surge Rating(20s)	9000W	
	Electric Motor Starting Capacity	3HP	
	Output Waveform	Pure Sine Wave	
	Nominal Efficiency	83%(Peak)	
	Line Mode Efficiency	>95%	
	Power Factor	0.9-1.0	
	Nominal Output Voltage rms	120Vac	
	Output Voltage Regulation	±10% rms	
	Output Frequency	60Hz ± 0.3Hz	
	Short Circuit Protection	Yes. Current Limit Function (fault after 1s)	
	Max THD Under Full Load	<10% DC-AC	
	Typical Transfer Time	10ms (Max)	
DC Input	Nominal Input Voltage	12V	
	Minimum Start Voltage	11.5/12V	
	Low Battery Alarm	12/12.5V	
	Low Battery Trip	11.5/12V	
	High Voltage Alarm & Fault	16V	
	High DC Input Recovery	15.5V	
	Low Battery Voltage Recovery	12.5V	
Charge	Input Voltage Range	90-135Vac	
	Input AC Current	15A for Charge Only 50A @ 240V Bypass	
	Output Voltage	13.6V	
	Charger Breaker Rating	30A	
	Max Charge Current (DC)	100 Amp	
	Battery Initial Voltage for Start Up	11.5/12V	
	Over Charge Protection Shutdown	14.8V when using the lithium battery, see DC Input specs for other battery types	
	Charge curve (4 stage constant current) digital controlled progressive charge. Bulk, Absorb, Float, Restart		
	Battery Type	Fast V	Float V
	Alternator Charge	200 A Regulator Built-in	
	Charge for Lithium Battery	13.8 VDC	13.6 VDC
Bypass & Protection	Input Voltage Waveform	Sine wave (Grid or Generator)	
	Nominal Voltage	120 AC Output and 120/240 VAC Bypass	
	Low Voltage Trip	90V±4%	
	Low Voltage Re-engage	100V±4%	
	High Voltage Trip	140V±4%	
	High Voltage Re-engage	135V±4%	
	Max Input AC Voltage	150VAC	
	Nominal Input Frequency	60Hz	
	Low Freq Trip	40±0.3Hz	
	Low Freq Re-engage	42±0.3Hz	
	High Freq Trip	70±0.3Hz	

	High Freq Re-engage	68±0.3Hz	
	Overload Protection	Circuit Breaker	
	Output Short Circuit Protection	Circuit Breaker	
	Breaker Rating for AC Output	50A	
Battery	Lithium LiFePO ₄	400 Ah	
	Voltage	12V	13.3 Nominal
	Output Operation (Switch)	DC Port Voltage 9.4 - 14.4Vdc	Inverter 10.5-15V +/-0.5V
	Rated Energy	5.12kWh	
	Cell Configuration	4S4P	
	Battery Cell	3.1V 100Ah 16PC Prismatic	
		14	
	Max Charge Voltage	14.2	
	Overcharge Protection Voltage	14.6	
	Charge Current	200A	
	Protections	Short circuit, over charge/discharge, BMS, high and low voltage shutdown,	
	Cell balancing	Yes	
	Parallel connection	Max 2	
	Operating Temp Range	Recommended 59°F to 86°F (15 to 30°C)	Discharge: -20 to 65°C/-4 to 149°F Charge: 0 to 65°C/ 32 to 113°F
	Max Discharge Current	480A for 5 Sec 440A for 30 Sec	
	Protections	Over charge, over/under temp, restart, BMS	
	DC Input	10-14 Vdc	
	DC Output	10-14Vdc	
	Discharge Current	300A SB 350 connector	
	DC Port Output	100A SB120 connector	
	Remote	Optional Bluetooth Dongle (AIMS PRO)	
		Optional LCD Display (REMOTELF)	
Solar Inputs	MPPT Controller	50A * 2 controllers total 100A	
	Max Solar Input Voltage	145V	
	PV Array (MC4 compatible connectors)	700 Watt Max between input 1&2 same for input 3&4 1400-watts combined	
	PV Array MPPT Voltage Range	18-115Vdc (+5V)	
Mechanical	Mounting	Surface must be able to support 265 lbs	
	Inverter Dimensions(W*D*H)	29.25" x 24" x 10" 32" x 25" x 13" shipped	
	Inverter Weight	92 lbs / 105 lbs shipped	
	Lithium Battery Dimensions (W*D*H)	29.25 "x 24" x 15.75"	26" x 36" x 24" shipped
	Lithium Battery Weight	161 lbs	182 lbs shipped
	Auxiliary Lithium Battery Dimensions	26" x 32" x 14"	
	Auxiliary Lithium Battery Weight	125 lbs	163 lbs shipped
	Shipping Weight	298 lbs Freight Only (ships on different pallets)	
	Display	Status LEDs and Optional External LCD	
	Standard Warranty	2 Year	

AIMS POWER LIMITED WARRANTY

This product is built using advanced digital technology and undergoes rigorous quality control and testing. If you experience any performance issues, please contact us at **techsupport@aimscorp.net** or **(775) 359-6703**. We will do our best to address your concerns.

If your product requires repair or replacement, please retain your receipt or invoice, as it must be included with the package and RA# when returning the item prepaid to AIMS. The product is covered by a **2-year warranty from the date of purchase**.

This warranty is valid worldwide, except customers outside the contiguous 48 United States are responsible for freight and duty charges.

Beyond the terms outlined above, AIMS makes no express or implied warranty, including but not limited to warranties of merchantability or fitness for a particular purpose. AIMS is not liable for indirect, special, or consequential damages.

This warranty applies **only to AIMS Power branded products**. Other brand-name products are covered by their respective manufacturers' warranties. Please do not return non-AIMS Power branded products to AIMS Power.

SAVE YOUR ORIGINAL PACKAGING!

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